AMENDMENTS TO THE CLAIMS

Please cancel claims 2, 4, 5, and 18, without prejudice or disclaimer. Please amend the remaining pending claims with the respective identically numbered claims as follows. The current status of all of the claims in the application and the text of all currently pending claims is presented below with markings to indicate changes that have been made relate to the immediate prior version.

1. (currently amended) A hydrogen recharging system for a fuel cell hydride storage reservoirs, comprising:

an electrolyzer to hydrolyze liquid water to hydrogen gas and oxygen gas, said electrolyzer connected to a water supply;

a hydrogen gas accumulator;

a dryer situated between and connected to the electrolyzer and the hydrogen gas accumulator, wherein the dryer is adapted to dry the hydrogen gas produced by the electrolyzer, and wherein the hydrogen gas accumulator is adapted to store the dried hydrogen gas; and

a heat exchanger coupled to the fuel cell hydride storage reservoir, wherein in response to the coupling of the fuel cell hydride storage reservoir to the hydrogen recharging system, the heat exchanger is adapted to:

evacuate the fuel cell hydride storage reservoir by applying heat, and

enhance the fuel cell hydride storage reservoir's ability to recharge by removing heat, and

further wherein upon detection of the heat removal from the fuel cell hydride storage reservoir, ~~hydrogen gas produced by the electrolyzer is dried in the dryer and then stored in the accumulator such that when a user connects the fuel cell hydride storage reservoir to the hydrogen recharging system,~~ the stored hydrogen gas is rapidly transferred from the hydrogen gas accumulator to the hydride storage reservoir, to be retained in the hydride storage reservoir in the form of a metal hydride.

2. (cancelled)

3. (currently amended) The system as described in claim 1, further comprising ~~a heat exchanger to heat the connected fuel cell hydride storage reservoir prior to transfer of the stored hydrogen, and wherein~~ a pump ~~is used~~ coupled to the fuel cell hydride storage reservoir to evacuate the fuel cell hydride storage reservoir during heating.

4. (cancelled)

5. (cancelled)

6. (original) The system as described in claim 1, further comprising a vent on the electrolyzer to vent oxygen produced by the electrolyzer to the surrounding environment.

7. (currently amended) The system as described in claim 1, wherein the hydrogen gas accumulator further comprises a compressor.

8. (original) The system as described in claim 1, further comprising a charge meter for measuring the amount of hydrogen transferred to the fuel cell hydride storage reservoir.

9. (original) The system as described in claim 1, wherein the system is contained in a desktop housing less than or equal to one cubic foot in volume.

10. (currently amended) A self-contained hydrogen recharging system for a fuel cell metal hydride storage reservoir, comprising:

a water supply connected to an electrolyzer for converting liquid water to hydrogen and oxygen gas;

hydrogen storage means comprising an accumulator and a compressor;

a dryer situated after the electrolyzer; and

wherein hydrogen gas produced by the electrolyzer is stored in the hydrogen storage means; and

a heat exchanger coupled to ~~heat~~ the fuel cell hydride storage reservoir, wherein in response to the coupling of the fuel cell hydride storage reservoir to the hydrogen recharging system, the heat exchanger is adapted to:

prior to transfer of the stored hydrogen gas, evacuate the fuel cell hydride storage reservoir by applying heat, and

enhance the fuel cell hydride storage reservoir's ability to recharge by removing heat, ~~and then to cool the fuel cell hydride storage reservoir~~ during transfer of the stored hydrogen gas; and

wherein ~~upon connection of the fuel cell hydride storage reservoir to the hydrogen recharging system by a user,~~ the stored hydrogen gas is rapidly transferred to the hydride storage reservoir and stowed in the reservoir as a metal hydride.

11. (previously presented) The system as described in claim 10, further comprising a vent on the electrolyzer to vent oxygen produced by the electrolyzer to the surrounding environment.

12. (previously presented) The system as described in claim 10, further comprising a charge meter for measuring the amount of hydrogen transferred to the fuel cell hydride storage reservoir.

13. (currently amended) The system as described in claim 10, further comprising a vacuum pump for evacuation of the fuel cell hydride storage reservoir.

14. (currently amended) A hydrogen recharging system for a fuel cell hydride storage reservoirs, comprising:

an electrolyzer to hydrolyze liquid water to hydrogen gas and oxygen gas, said electrolyzer connected to a water supply;

a hydrogen gas accumulator for storing hydrogen gas produced by the electolyzer; and

a heat exchanger coupled to the fuel cell hydride storage reservoir, wherein in response to the coupling of the fuel cell hydride storage reservoir to the hydrogen recharging system, the heat exchanger is adapted to:

evacuate the fuel cell hydride storage reservoir by applying heat, and

enhance the fuel cell hydride storage reservoir's ability to recharge by removing heat, and

wherein upon detection of the heat removal from the fuel cell hydride storage reservoir, ~~hydrogen gas produced by the electrolyzer is stored in the accumulator such that when a user connects the fuel cell hydride storage reservoir to the hydrogen recharging system,~~ the stored hydrogen gas is rapidly transferred from the accumulator to the hydride storage reservoir, to be retained in the hydride storage reservoir in the form of a metal hydride.

15. (currently amended) A method of recharging hydrogen within a fuel cell, comprising:

hydrolyzing liquid water to produce a hydrogen gas and an oxygen gas;

drying the hydrogen gas;

storing the dried hydrogen gas in an accumulator; ~~and~~

evacuating ~~cooling~~ a connected hydride storage container by applying heat;

cooling the connected hydride storage container to enhance the efficiency of transfer of ~~to cause~~ the stored hydrogen gas ~~to rapidly transfer~~ from the accumulator to the connected hydride storage container; and

rapidly transferring the stored hydrogen gas from the accumulator to the connected hydride storage container.

16. (currently amended) A method of recharging hydrogen within a fuel cell as recited in claim 15 further comprising:

detecting the hydride storage container requires replenishment prior to the ~~cooling~~ evacuating step.

17. (previously presented) A method of recharging hydrogen within a fuel cell as recited in claim 15 further comprising:

retaining the hydrogen gas in the hydride storage container in the form of a metal hydride.

18. (cancelled)

19. (previously presented) A method of recharging hydrogen within a fuel cell as recited in claim 15 further comprising:

venting the oxygen gas to a surrounding environment.

20. (previously presented) A method of recharging hydrogen within a fuel cell as recited in claim 15 further comprising:

measuring the amount of hydrogen transferred to the hydride storage container.

21. (currently amended) A method of recharging hydrogen within a fuel cell comprising:

connecting a water supply to the fuel cell;

converting liquid water from the water supply to a hydrogen gas and an oxygen gas using an electrolyzer;

storing the hydrogen gas produced by the electrolyzer in a hydrogen storage means;

heating a hydride storage reservoir for purification of the hydride storage reservoir;

connecting the hydride storage reservoir to the hydrogen storage means; ~~and~~

cooling the hydride storage reservoir to ~~cause~~ enhance the efficiency of ~~the~~ stored hydrogen gas ~~to rapidly~~ transfer to the hydride storage reservoir; and

opening a valve to rapidly transfer the stored hydrogen gas to the hydride storage reservoir, thereby causing the recharging of ~~storing the result of the cooling step in~~ the hydride storage reservoir ~~as a metal hydride~~.